

CTGGCTAGCC	TCACCTGGTA	GACAGCCCTG	ACAGCCCTAC	TGGCTGGGG	TGAAAGGOC	AGTCAATATC	TTGGTCACTG	80
CTAAATGATTC	CTTACTAGCC	GCAAAAGCT	CCCTTGGGAA	GGGSCACAGA	CTATCAAGTG	AGACATATAG	GAATGCATGTC	160
TTTCAATAGCC	ACAGTTPAGG	TGGTTPAGCC	CTCGAAGAGG	CCCGACTTTG	CACTCGAATAG	ACATGTGGCT	TCATGTCAAC	240
ATGATTTGGC	ACATCGGGCA	TCAGGACCC	TCCTGCATCA	GAATAGAAC	CCCTGTGTTT	CCCTTTTGT	CTTTTCTCTT	320
CTACAGGAG	CGTAGCGTG	GTTAACTTGA	GCAGGCGCA	GTGGTCTGTT	CACGAGGTTA	CCATCGAATC	CTCTTCTTTC	400
CCATCATGTA	CCCTGCCCCC	GAGTTPAGCC	CCCATCACGG	CTGTGAATTC	CACCTTGGG	CCGATGAGCT	AGTGTACTC	480
TTTCACTGAT	GCTCTTGATG	GGGCACTTTG	CTACACTTTC	CTTGGTTACT	CCATCTTCT	TTCTCTTCCG	ATTCAGGCTC	560
TATGCCCCAG	GACACAACCT	CATTGCCCCG	GACCACTTTG	AGCGGCGAAG	CACCTTGGG	CCGATGAGCT	TGATPACACC	640
CTTCAACCTT	GGCAATGAT	GGAGTTTGGG	TCATTTTTTC	ATGATCACTC	CACATCTACT	AGATCACGGA	TCCTTGAGAA	720
GGGTGTGGAA	GCGAGACAG	CTGTGCCCCG	TTCTTGCGAA	CTCAGGTGAG	CTCTTGGG	CTATCACAG	TCCGAGTTAT	800
CRAGTCCCTG	AAAGTCCAGA	CCCTTTTTCAT	TGTATGATGC	TGCTTATTTT	GGGCTATCTC	TATGCGGTAG	CAGCGGTCTT	880
GGCTACAAC	GGCTGCGATG	GCTGAAGACT	CGTGAGATCT	ATPAAAGGCT	CCGATCCCTC	GGTGAAGTCA	GAATCTGCTC	960
TCACACCGT	TCATACACAA	CGTTCTTTTC	CTTACAGGCT	AGCTTGAGCA	CATTCACAGA	ACTCTTTCCT	TCCTTTTGTG	1040
AAATATCTGT	TCAGTTCATG	GCAACTTGCA	GCGCCCTCG	GGCTCTCTG	TGAGTCTTCT	GGCATCCGGA	TGAGCACCGG	1120
GACCCACCC	ATTGAGGGCT	TTGATCCGGA	AGTGAAGACT	GAGTCTTGCT	CTGACTCCCT	CCCTTGCTCA	GCGAGCGATG	1200
ACGACTGGGA	GTCACCTTCA	TACACTTTGC	TTTACAGGTC	AGACACTTGT	CCCACTCTGT	TTCCCTTCTG	AACATCACTC	1280
TATAGGAATG	CCCTGCCAAT	TCCACTCTGC	AAAGCCGCCA	AGATGTATGT	CTTTGATTTT	CTAGCGAGCA	ACTCGGCCCC	1360
GACTAATGTA	TTCTAGGATC	ATTACCAACG	CTGTACCGG	CAAGGACACT	GTGACTATGT	AGATCGAGCT	CAGCCCATTT	1440
CAGCAAGGG	TGATGTTGCT	CAGAAACCTT	GTGGTAAATTA	ATCAATTGTA	CTGAGCTTCT	CAGATTTTAC	CCACTTTGGG	1520
CCCTGCCACT	CTCTGCGCT	CAGACTGGCT	GAGCCCTGCT	CCCTCTTTCA	ATGTTCCGAG	AGGACACAGT	ACTGTAGTGA	1600
GGTTCATCAA	CAATGCCACC	GTGACGAAT	CGTCTCCTCT	GCGGSCCTCC	CCATGCGGTC	CCCTTTTCTG	TGCTTGGGCT	1680
GAGATGTGA	CCCTTCCCTG	GGAGTGAAGT	GATTACTTACT	TTCCCACTTA	CCATCCCGCC	CGCTTCTCTG	GATACCATGA	1760
CCAGCTTTTC	ATGAGGATAT	GCTAGAGGCC	TTTATCTTTT	TTGGCTACTT	TTGGCTTACC	AACTTCTCTT	CGTGAAGTGC	1840
TGAGGAATGC	TACTTTGGTC	AGGCTGGGCC	CTACATTAATC	AACGAGGAGG	CTGAGGATGC	TCTCGGTCTT	CTATGTGGCT	1920
ATGGCGAGTT	GGATATCCCT	CTGATCCCTGA	CGGCCAAGTA	CTATTAACCC	GAATGTACCC	TGGCTTTCAG	CGAGGGTGAG	2000
GACCGAGACC	TGTTGGGAGA	TGTCATCCAT	GTCAGCGGAC	AGCCATGGCC	TTTCTTTTAC	GTTCCAGCCC	GCAAGTACCG	2080
TTTCCGATTC	CTCAACGATC	CCGTGTCTCG	TGCTTGGCTC	CTCTACTTGG	TCAGGACTAG	CTCTCCCAAG	CTCTGAGATTC	2160
CTTTCCAGT	CAITTCGCTCT	GAATGCTTGC	TCCCTCAAGC	CCCGGTTCCG	AACTCTTACC	CTTACCTTTC	TGTTGCGGAG	2240
CTTATGAGA	TCATTATATG	TATGCCCTCC	CCCTCAGCA	ATGAGTCAAG	AACTCTTACA	CTTACACTTG	TAGACTTTCAC	2320
CAACTTTGCT	GGCCAGACTC	TTGACCTTGG	CAGAGTGTCT	GAGACCAAGC	ATGTGCGGCA	CGAGGATGAG	TACGCTTCGCA	2400
CTCTGAGGT	GAATGCTTTC	GTGCTCAGCT	CTGCGACTGT	TGAGGACAAC	AGCCAGGTCC	CCCTCCTCTT	CCGTGAGGTT	2480
CCCTTCCCTC	CTCAACAAGG	AGGCCCCGCC	GACACGCACT	TCAGATTGTA	ACCGAGCAAC	GGACACTTAC	TGATCAACGA	2560
TGTTGCTCTT	GGCGATGTCA	ATGAGCGTGT	CCCTGGCCAG	CCCGAGCTCG	GCAACGTTGA	GGTCTGGGAG	CTCGAGAACT	2640
CCCTCTGAGG	CTGAGGCCAC	CCCGTCCACA	TTCACTTTGT	TGACTTCAAG	ATCTTCAAGC	GNACTGGTGG	TCGTTGGCGAG	2720
CTCTGAGGCT	AGGAGTCTGC	TGTTCTTAA	GAATGCTCTT	GGTTGGCGAG	GGGTGAGACC	CTGACCAATG	AGGCCCACTA	2800
CCACCTCTG	ACTTGAGCTCT	ACAATGTGCA	CTGTACACAC	CTCATTCAG	AGGATTAAGC	CATGATGGCT	GATTTCAAGG	2880
TCACCGCCAT	GGAGGAGAG	GGATATCTTC	AGGAGGACTT	CGAGGACCCC	ATGAACCCCA	AGTGGCGGCG	GGTTCTCTTAC	2960
AACCGCAAG	ACTTCCATGC	TGCGCTGGA	AACTTCTCCG	CCGAGTCCAT	CACCTGCCCA	GTGCGAGGAC	TGGCCGAGCA	3040
GGAGCGGTAT	AACCGCCCTG	ATGAGATCCCT	GGAGGACTTC	GGATTCGAGG	AGTAAACCCC	GAGCCCAAGC	CTTACCAATC	3120
GTTTTGTGTC	TTAAGCAGAG	GCTCTTGGTG	CGTATCTCTT	TTCTTCCCTG	GGGGAACCTC	CGTGTTCCTCT	GGATGTGAA	3200
GGACATTCAC	AAAGCAAGT	ATATATTTGGA	CTACCAACTG	TCATTTCCCG	CCACTTGTAC	CTTATTCATTT	CTTGTTCGTA	3280
CTTTTCTTAT	GGGAGAGTGT	CCATAGTCAA	GAAGCGCCCA	TAGGCTTATC	GTCTAAAGCT	AACTATTGTC	TGCTCTGTGA	3360
CGTGGAGTAG	ATGTCAATTG	TGATGAGACA	CAGTAAATAC	GGTATATCTT	TTCTTAGAGC	TACAGGATCA	GTTTCTCATG	3440
AGATTTCACT	CGTTCATATG	GAGTCTAGCT	AAAGTTCAGT	AGGCTTACAG	CCGATTCAT	TTGATGCTCT	TTAGTGTGCA	3520
AGCTGTATAT	ACCGATGTAA	GACAAGTTAG	GTAAGTGTCT	TGGTATCCGA	AAATGACTCA	GGCTCCCTCA	TTAGTGTGCA	3600
TGTGAANAAC	TTCAAGCACT	CATGGGTTGT	GGGCAAAAT	CATTCATACC	TGATTTTGTAT	AACTGACCTG	GGTCAAT	3677

Figure 2

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1 .....MFKHILGAAALSLFNSNAVQA.SVPETSPATGHLFKRV 39
      |           |           |           |           |
1 MLFKSWQLAAASGLLGGVLGIPMDTGSHPTEAVDPEVKTEVFADSLAAA 50

40 AQISFQVYMFIV....PLPIPPVQPRILTINFNQGEIWIYYEVEIKPFT 85
      |           |           |           |           |
51 GDDWESPPYNLLYRNALPIPPVQPKMITINFNVGKDIWYETEIKPFQ 100

86 HQVYPDLGSADLVGYDGMSPGPIFQVPRGVEIVVRFINAEAPNSVHLHG 135
      || | | | | | | | | | | | | | | | | | | | | | |
101 QRTYPTILRPATLVGYDGMSPGPIFNVPRGTEIVVRFINATVENSVHLHG 150

136 SFSRAAPDQWAEDITEFGSFKDYVYENRQSARILWYHDHAMHITAENAYR 185
      || | | | | | | | | | | | | | | | | | | | | | |
151 SFSRAAPDQWAEDVTFPGEYKDYFPNYQSARILLWYHDHAMHTAENAYF 200

186 GQAGLMLITDPAEDALNLPSSGYGEFDIPMLITSKQVYANGNLVATNGEIN 235
      || | | | | | | | | | | | | | | | | | | | | | |
201 GQAGAYTINDEAEDALGLPSSGYGEFDIPMLITAKYVYADGILRSTEGDQ 250

236 SFWGDVIHVNGQWPFFKNVEPRKYRFRFLDAVRSFGLYFADTDAIDTR 285
      || | | | | | | | | | | | | | | | | | | | | | |
251 DLWGDVIHVNGQWPFFLNQPRKYRFRFLNAVRSRAWLLVLRSSPINVR 300

286 LPFKVIASDSGLLHHPADTISLLYISMAERYEVWFDSDYAGKTIELRNIG 335
      || | | | | | | | | | | | | | | | | | | | | | |
301 IFFQVIASDAGLLQAPVQTSNLYLAVAEVETITDFINFAQTILDNRV. 349

336 GSGIGIGITDITYDNITKVMRFVADDITQPDTSWVPANLRDVFPSPPTIN 385
      | | | | | | | | | | | | | | | | | | | | | |
350 AEINDVGDEDEYARITLEVRFVSSGIVE..INSQVPSILRDVFFPHKEG 398

386 .TPRQFRFGKIGPTWITINGVAFADVQNRLLANVPVGIVERWELINAGNGW 434
      | | | | | | | | | | | | | | | | | | | | | |
399 PADKHFKFERSNGHYLINDVGFADVNERVLAKPELGIVSEWELNSSGGW 448

435 THPIHILWDFKVISRTSGNNARIVMPYES..GLKDVWILGRREIVWVEAH 483
      || | | | | | | | | | | | | | | | | | | | | | |
449 SHPVHILWDFKILKRTIGRG..QMPYESAGLKDVWILGRGETILITEAH 496

484 YAPFFGVYMFHCHNLIHEDHMMAPFNATVLPDYGNATVVDPMEEILVQ 533
      || | | | | | | | | | | | | | | | | | | | | | |
497 YQPWIGAYMWHCHNLIHEDHMMAPFNATVAMEEKGYLQEDFEDVAPKAR 546

534 ARPVELGEFQAGSGQFSQAVTERIQIMAEYRYPYAAADE..... 572
      || | | | | | | | | | | | | | | | | | | | | | |
547 AVPYNRNDFHARAGNFSAESITAKVQLAEQEPYNRLDEILEDLGTIE 594

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Figure 3: protein sequences alignment of Bilirubin oxidase (top sequence) with Stachybotrys oxidase (bottom sequence).

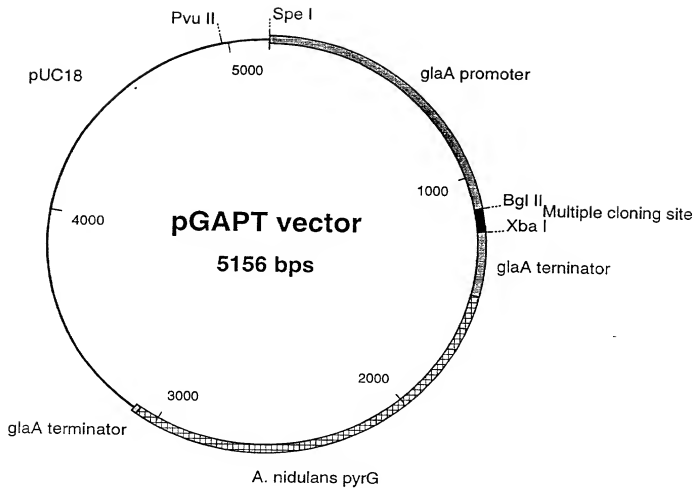


Figure 4

AGATCTAATA	TGCTGTTCAA	GTCATGGCAA	CTGGCAGCAG	CCTCGGGCT	CCTGCTGGA	60
GTCTCTGGCA	TCCCGATGGA	CACCGGCAGC	CACCCCATGT	AGGCTGTGTA	TCCCGAAGTG	120
AAGACTGAGG	TCTTGGTACA	CTCCCTCCTT	GCTGCAGCAG	GCGATGACGA	CTGGGATCTA	180
CCTCCATAGA	ACTTGCCTTTA	CAGGTGAGAC	ACCTGTCCCA	CCTGTTTTC	CTCGATACAA	240
AACCTCTATA	GGAAATGCCCT	GCCAAATTCCA	CCTGTCAAGC	AGCCCAAGAT	GTAATGCTTTT	300
GATTTTCTAC	GAAGCAACTC	GGCCCCGACT	AATGTATTCT	AGGATCAITTA	CCAAACCTGT	360
CACCGGCAG	GACATTTTGGT	ACTATGATGAT	CGAGATCAAG	CCATTTTCAG	AAAGGGTGAG	420
TTTGCTCAGA	AACCTTTGTG	TAATTAAATCA	TGTGTACTGA	CCCTTTTCAG	TTTACCCCAC	480
CTTGGCGCCT	GCCACTCTCG	TGGCTTACGA	TGGCATGAGC	CTCGTCTCTA	CTTTCAATGT	540
TCCCAGAGGA	ACAGAGACTG	TAGTTAGGTT	CATCAACAAT	GCCACCGTGG	AGAACTCGGT	600
CCATCTGCAC	GGCTCCCAT	CGGTGCCCC	TTTCGATGTT	TGGGCTGAAG	ATGTGACCTT	660
CCCTGGCGAG	TACAAGGATT	ACTACTTTCC	CAACTACCAA	TCCGCCCGAG	TTCTGTGGTA	720
CCATGACCAC	GCTTTTACTA	AGGTATGCTA	CGAGCCTTTA	CTTTTCTTGG	CTACCTTTGG	780
CTAACCAACT	TCTTTTCTGA	GACTGCTGAG	AATGCTACT	TTGGTCAGGC	TGGCGCCTAC	840
ATTATCAACG	ACGAGGCTGA	GGATGCTCTC	GGTCTTCTTA	GTGGCTATGG	CGAGTTGGAT	900
ATCCCTCTGA	TCTTGACCTG	CAAGTACTAT	AACGCCGATG	GTACCTCTGG	TTTCGACAGG	960
GGTGAGGAC	AGGACCTGTC	GGGAGATGTC	ATCATCATGA	ACGGCAGACC	ATGGCCCTTTC	1020
CTTAAGCTCC	AGCCCCGAA	GTACCGTTTC	CGAATTCTCA	AGCGTGCCT	GTCGTGTCGT	1080
TGGCTCCTCT	AACCTGTCAG	GACCAGCTCT	CCCAAAGTCA	GAATTCTCTT	CCAAGTCATT	1140
GCTCTGATG	CTGGTCTCCT	TCAAGGGGCT	GTTCAGACCT	CTAACCTCTA	CCTTGCTGTT	1200
GCGAGCGGTT	AOGAGATCAT	TATTTGGTAT	CCCTCCCTTC	TACGAATGA	GTCAAGACTT	1260
AGCAAGCTTA	CACTTGTAGA	CTTCAACAA	TTTGTCTGGC	AGACTCTTGA	CTTCGCAAC	1320
GTTGCTGAGA	CCAAAGATGT	CGCGAAGAG	GATGAGTAGC	CTGGCACTCT	CGAGGTGATG	1380
CGCTTGTGCG	TCAGCTCTGG	CAGTGTGTAG	GACAACAGCC	AGGTCCCTCT	CAGCTTCCGT	1440
GACGTTCTTT	TCCCTCTTCA	CAAGGAAGCG	CCCGCGAGCA	AGCATTTCAA	GTTTGAACGC	1500
AGCAACGGAG	ACTAAGTAT	CAACAGATGT	GGCTTTGGG	ATGTCAATGA	GGGTGCTCT	1560
GCCAAAGCCG	AGCTTGGGAC	CGTTGAGGTC	TGGGAGCTCG	AGAACTCTTC	TGGAGGCTGG	1620
AGCCACCCCG	TCCACATTCA	CCTTGTGTAC	TTCAAGATG	TCAAGGGAAC	TGGTGTCTGT	1680
GGCCAGGTGA	TGCCCTACGA	GTCTGCTGTT	CTTAAGGATG	TGTTCTGGTT	GGGCGAGGGT	1740
GAGACCCCTA	CCATAGAGGC	CCACTACCAA	CCCTGGAGTG	GAGCTATGAT	GTGGCACTGT	1800
CACAACCTCA	TTACGAGGGA	TAAACGACAT	ATGGCTGTAT	TCAACCTCAC	CGCCATGGAG	1860
GAGAAGGGAT	ATCTTCAGGA	GGACTTTCAG	GACCCCATGA	ACCCCAAGTG	GCGCGCCGTT	1920
CCTTACAACC	GCAAGCACTT	CCATGCTTCG	GCTGGAAACT	TCTTCGCGCA	GTCATCACT	1980
GCCCCAGTGC	AGGAGCTGGC	CGACCGGAG	CCGTACAACC	GCTTCGATGA	GATCTCGGAG	2040
CTTCTGTGAA	TGAGAGGATA	GTTCTAGA				2067

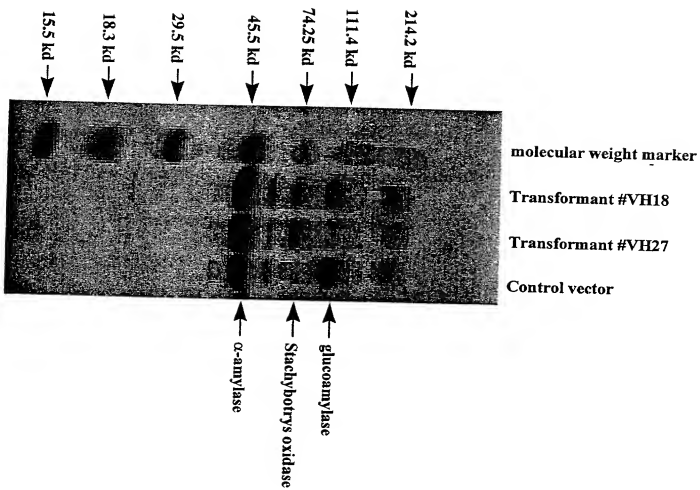


Figure 6